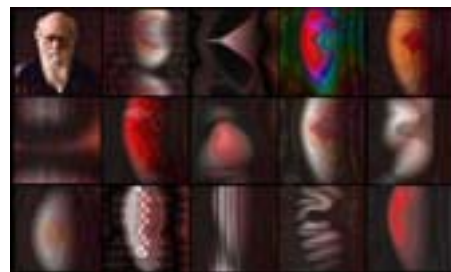


ARTIFICIAL INTELLIGENCE SYSTEMS IN NEW MEDIA ART AND DESIGN

Steve DiPaola*

Science and art are merging and with artificial intelligence system like neural networks, genetic programs and rule based systems, artists or designers are using smart systems that allow them to better immerse themselves in the creative process. Artist/Scientist Steve DiPaola uses AI techniques in his self created programs and artwork.

Darwin - A conceptual piece that evolves a related family of abstract portrait painters. Portraits are created by Darwinian evolution using the AI technique called Genetic Programming. Using the painting of Darwin by John Collier as the creative spark, portraits slowly evolve over a month of



constant computer time in this art programming experiment to cajole a computer to become creative on its own. See www.dipaola.org/Darwin

Dancers - An animated art short using "smart" character movement programs.



* Steve DiPaola, both an active artist and scientist, delves into the concepts of the virtual and the social by creating virtual human and community systems both in his research and art work. An Associate Professor at *Simon Fraser University*, Steve directs the I-Viz Lab (ivizlab.sfu.ca) which strives to make computer systems bend more to the human experience. He came to SFU from *Stanford University* and before that spent 10 years as a senior researcher at NYIT Computer Graphics Lab, an early pioneering lab in high-end 3D techniques. He has held senior positions at Electronic Arts and Saatchi & Saatchi Innovation and has consulted for HP, Kodak, Macromedia and the Institute for the Future. His artwork has been exhibited internationally including the A.I.R. and Tibor de Nagy galleries in NYC as well as the Whitney Museum of Art, and the IBM Gallery of Science and Art. He co-curated the first computer art show in a major NYC gallery in 1988. See www.dipaola.org .

musicface - Stills from a music driven art short where an original music composition drives 3D virtual emotive faces in a collaborative re-mapping of the emotional and gestural state of the music.

See <http://ivizlab.sfu.ca/research/musicface>.



vrBeluga - This interactive uses an extremely realistic 3D simulation of a wild beluga whale pod for a major aquarium that is situated next to a group of real beluga whales in an integrated marine mammal exhibit. The Virtual Beluga Interactive was conceived to better immerse and engage the visitors in complicated educational concepts about the life of wild belugas thereby allowing them to have deeper insights into the life of beluga whales. The simulation uses artificial intelligence, physically based animation, and real-time graphics.

See <http://ivizlab.sfu.ca/research/vraquarium>.



noiseFace - The work in this art still series uses 3D painterly noise where 'brush strokes abstract space rather than color'. The system uses stochastic noise perturbation and a 3D face system developed by the artist.

See www.dipaola.org/art

